



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/665,252

09/19/2003

Timothy Donovan

MP0405

6941

26703 7590 04/16/2008
HARNESS, DICKEY & PIERCE P.L.C.
5445 CORPORATE DRIVE
SUITE 200
TROY, MI 48098

EXAMINER

WIN, AUNG T

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

04/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/665,252	DONOVAN, TIMOTHY	
	Examiner	Art Unit	
	AUNG T. WIN	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-121 is/are pending in the application.
- 4a) Of the above claim(s) 12,32,48,68,81,95,106 and 113 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-31, 33-36, 58-67, 69-72, 73-80, 82-86, 116-121, 87-94, 96-99 is/are rejected.
- 7) ☒ Claim(s) 1-11, 13-21, 100, 37-47, 49-57, 101, 102-105, 107-108, 109-112, 114-115 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed on 12/19/2007 regarding 22-31, 33-36, 58-67, 69-80, 82-94, 96-101 have been fully considered but they are not persuasive.

Regarding claim limitations as amended in Claims 22, 58, 73, 87, applicant argues that examiner did not assert various different time slot control operations in the office action rejection. However it should be noted that in patent practice, the term "one of " requires the examiner to find one of the two and various alternation features. It should also be noted that applicant invention according to disclosure only assert one of the various different time slot control operations at a time in order for predetermined time slot to be occurred. Moreover, rejected limitation "assigned time slot occurs after prior time slot expires", which is one of various different time slot control operations is **no longer recited** in amended claims 22, 58, 73, & 87. Therefore, Applicant's arguments with respect to 22-31, 33-36, 58-67, 69-80, 82-94, 96-101 are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19, 34, 55, 70, 84, 97 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19, 34, 55, 70, 84 & 97 recite “wireless LAN station is compliant with at least one of IEEE section 802.11, 802.11(a), 802.11(b), and 802.11(g)”. The use of “protocols” or “standards” or “specifications”, “protocols” or “standards” or “specifications” change over time, hence, it is inappropriate to have the scope of a claim change with time. Since organizations implementing standards or specifications meet regularly and have the authority to modify standards or specifications, any connection a claim may have to these specifications may vary scope over time. Therefore it renders Claims indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 22, 34, 35, 36, 58, 71, 72, 73, 74, 75, 76, 79, 80, 82, 84, 85, 86, 87, 88, 89, 90, 93, 94, 96, 97, 98 & 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US20040253996A1) in view of Mahany et al. (US20060280140A9).

1.1 Regarding Claim 22, Chen discloses adhoc wireless local area network comprising:

A first wireless LAN stationa SCP-STA wireless LAN station (second wireless station) that communicates with CTRL-STA in a local area network (LAN), wherein

a first wireless LAN station that selectively operates in low power and active modes, [one of wireless LAN stations which can be operated in low power and active mode: 0015], and that initiates a LAN and that assigns predetermined time slots for transmitting data to wireless LAN stations joining said LAN [one of said wireless LAN stations to be designated as control station CTRL-STA to initiate the wireless LAN and assigns time slots for communicating with wireless stations joining said LAN: 0015 & 0052] [also see distributed coordination function (DCF) in which CTRL-STA assign time slots for communication with one of said wireless LAN stations to be designated as scheduled contention period-station SCP-STA: 0052-0068];

a second wireless LAN station that selectively operates said low power and active modes [SCP-STA: 0047], that communicates with said first wireless LAN station [CTRL-STA: 0052-0068], that receives one of said predetermined time slots from said first wireless LAN station for transmitting data, and that, after transitioning to said active mode, transmits data during said one of said predetermined time slots [time slots: Figure 6, 10 & 11].

wherein said one of assigned time slot occurs after a wireless LAN station with said prior time slot transmits a frame with a predetermined duration value [assigned

time slot for next SCP-STA station occurs after previous SCP-STA station assigned time slot period and SIFS period: Figure 10 & 11] [also see 0052-0068].

Chen does not explicitly teach that the wireless station also selectively operates in low power and active modes when the station is operated as control station.

Mahany also teaches that any power saving wireless station can be operated as the control wireless station to form a wireless network and to re-entering to sleep mode if there is no communications with other wireless station [0061 & 0070].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to modify Chen's first wireless station as claimed to selectively operates in low power mode and active mode as taught by Mahanoy's WLAN network control device. One of ordinary skill in the art at the time of invention of made to do this to employ improved power saving method to control network device of wireless LAN system.

1.2 Claim 58 is rejected for the same reason as stated above in Claim 22 rejection because claimed network comprising the wireless means substantially close to wireless stations of corresponding network.

1.3 Claim 73, 85, 86, 87 are rejected for the same reason as stated above in Claim 22, 58, rejection because claimed method substantially close to corresponding method executed by claim 1 wireless network.

1.4 Claim 74 is rejected for the same reason as stated above in Claim 22, 58, 73 & 87 rejections because Chen discloses Adhoc Wireless LAN in which the wireless stations in the network receive data from each other in active mode and enter sleep mode thereafter [Adhoc Wireless LAN in which stations have active state and power-saving state and are able to transmit and receive data through a radio medium directly to and from each other: 0015, 0052-0058] [0034, 0037, 0047, 0057, 0061, 0065].

1.5 Claims 75 are rejected for the same reason as stated above in Claim 22, 58, 73 & 87 rejections. Chen discloses that stations wake up at the start of each beacon interval to receive beacon (i.e., claimed timing beacon) and enters to power-saving mode after receiving beacon prior to receiving next beacon (i.e., claimed subsequent beacon [0053 & 0061]).

1.6 Claims 76 & 79 are rejected for the same reason as stated above in Claim 22, 58, 73 & 87 rejections. Chen discloses that stations wake up at the start of each beacon interval to receive beacon (i.e., claimed timing beacon) and enters to power-saving mode after receiving beacon prior to receiving next beacon (i.e., claimed subsequent beacon [0053 & 0061]). Chen also discloses that wireless station need to update network time as claimed (wireless station synchronize its timing to received beacon i.e., network time [0052 & 53]).

1.7 Claim 80 is rejected for the same reason as stated above in Claim 22, 58, 73 & 87 rejections. Chan discloses that assigned time slots are followed by Short Inter-Frame Space SIFS for the wireless station to upload data [0049-0051] [Figure 11].

1.8 Claim 82 are rejected for the same reason as stated above in Claim 22, 58, 73 & 87 rejections. Chan discloses that wireless devices are configured to operate according to Distributed Coordination Function in which the wireless station is provided with time period interval for transmit and receive data at each beacon interval before re-entering to power saving mode and i.e., after last wireless stations assigned to time slot corresponds to last beacon interval [0062].

1.9 In light of 112 rejection stated above, Claim 34, 70, 84 & 97 are rejected for the same reason as stated above in Claim 22, 58, 73 & 87 rejections. Modified method is 802.11 WLAN compatible method [See background and summary] used in ad-hoc network].

1.10 35, 36, 71, 72, 98 & 99 are rejected for the same reason as stated above in Claim 22, 58, 73 & 87 rejections. Modified method is 802.11 WLAN compatible method [See background and summary] used in ad-hoc network.

1.11 88 & 89 are rejected for the same reason as stated above in Claims 22, 58, 73 & 87 rejections. Chen discloses that stations wake up at the start of each beacon interval to receive beacon (i.e., claimed timing beacon) and enters to power-saving mode after receiving beacon prior to receiving next beacon (i.e., claimed subsequent beacon [0053 & 0061]).

1.12 90 & 93 are rejected for the same reason as stated above in Claim Claims 22, 58, 73 & 87 rejections. Chen discloses that stations wake up at the start of each beacon interval to receive beacon (i.e., claimed timing beacon) and enters to power-saving mode after receiving beacon prior to receiving next beacon (i.e., claimed subsequent beacon [0053 & 0061]). Chen also discloses that wireless station need to update network time as claimed (wireless station synchronize its timing to received beacon i.e., network time [0052 & 53]).

1.13 Claim 94 is rejected for the same reason as stated above in Claim 23 rejection. Chan discloses that assigned time slots are followed by Short Inter-Frame Space SIFS for the wireless station to upload data [0049-0051] [Figure 11].

1.14 Claim 96 is rejected for the same reason as stated above in Claim 23 rejection. Chan discloses that wireless devices are configured to operate according to Distributed Coordination Function in which the wireless station is provided with time period interval for transmit and receive data at each beacon interval before re-entering to power saving mode and i.e., after last wireless stations assigned to time slot corresponds to last beacon interval [0062].

2. Claims 23, 59, 24, 60, 25, 26, 61, 62, 27, 30, 63, 66, 31, 67, 33, 69, 28, 64, 77 & 91, 29, 65, 78 & 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US20040253996A1) in view of Mahany et al. (US20060280140A9), further in view of Karaoguz (US20040029620A1).

2.1 Regarding Claims 23, 59 first wireless station CTRL-STA in the modified system and method as stated above teaches CTRL-STA operates in low power mode and active mode [control device communicate with other wireless devices at active mode and control device is put to sleep when there is no communications with other wireless devices 0070]. Therefore, it would have been obvious to one of ordinary skill in the art that CTRL-STA must be implemented with medium access controller and RF transceiver to operate the device in two operating modes as claimed although the modified system and method does not explicitly disclose MAC device and RF radio transceiver.

Karaoguz discloses medium access control device and RF radio transceiver communicating with each other to control power saving mode [Figure 6]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to modify Chen's wireless station as taught by Karaoguz wireless LAN station. One of ordinary skill in the art at the time of invention of made would have been motivated to do this to provide improved synchronization and power saving method for power saving wireless LAN stations.

2.2 Claims 24, 60 are rejected for the same reason as stated above in Claim 23 & 59 rejections because Chen discloses Adhoc Wireless LAN in which the wireless stations in the network receive data from each other in active mode and enter sleep mode thereafter [Adhoc Wireless LAN in which stations have active state and power-saving state and are able to transmit and receive data through a radio medium directly to and from each other: 0015, 0052-0058] [0034, 0037, 0047, 0057, 0061, 0065].

2.3 Claims 25, 26, 61 & 62 are rejected for the same reason as stated above in Claims 23, 59 rejections. Chen discloses that stations wake up at the start of each beacon interval to receive beacon (i.e., claimed timing beacon) and enters to power-saving mode after receiving beacon prior to receiving next beacon (i.e., claimed subsequent beacon [0053 & 0061]).

2.4 Claims 27, 30, 63 & 66 are rejected for the same reason as stated above in Claim 23 & 59 rejections. Chen discloses that stations wake up at the start of each beacon interval to receive beacon (i.e., claimed timing beacon) and enters to power-saving mode after receiving beacon prior to receiving next beacon (i.e., claimed subsequent beacon [0053 & 0061]. Chen also discloses that wireless station need to update network time as claimed (wireless station synchronize its timing to received beacon i.e., network time [0052 & 53]).

2.5 Claims 31 & 67 are rejected for the same reason as stated above in Claim 23 & 59 rejections. Chan discloses that assigned time slots are followed by Short Inter-Frame Space SIFS for the wireless station to upload data [0049-0051] [Figure 11].

2.6 Claims 33 & 69 are rejected for the same reason as stated above in Claim 23 & 59 rejections. Chan discloses that wireless devices are configured to operate according to Distributed Coordination Function in which the wireless station is provided with time period interval for transmit and receive data at each beacon interval before re-entering to power saving mode and i.e., after last wireless stations assigned to time slot corresponds to last beacon interval [0062].

2.7 Claims 28, 64, 77 & 91 are rejected for the same reason as stated above.

Modified system and method discloses receiving timing beacon as rejections stated above would teach setting network time as claimed because Mahany teaches setting network time as stated below.

Mahany teaches that control wireless station sends the beacons at fixed intervals of time or alternately beacons are sent in variable intervals. Wireless station resynchronizes based on with network time information (claimed prior beacon time) and specified beacon interval information comprised in received beacon from control device [0061-0080]. Mahany also teaches that the wireless station is needed to resynchronize in order to wake up from power-saving mode timely and accurately for receiving next beacon. At the time of invention of made, one of ordinary skill in the art would realize that there is a transmission delay and processing delay in packet data transmission. It is obvious to one skill in the art that said delay must be taken into consideration in Mahany resynchronization method in order to in order to wake up from power-saving mode timely and accurately for receiving next beacon.

Therefore, system and method as modified as taught by Myles's timing synchronization method would teach setting the network time as claimed. One of ordinary skill in the art at the time of invention of made to do this to provide improved synchronization and power-saving method for receiving beacons transmitted at variable time intervals.

2.8 Claims 29, 65, 78 & 92 are rejected for the same reason as rejections stated above. Chen discloses transmitting a beacon after back off period if the station missed a beacon [0111] therefore, the method as modified would teach as claimed.

3. Claim 83 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US20040253996A1) in view of Mahany et al. (US20060280140A9), further in view of Karaoguz (US20040029620A1), further in view of Jokinen (US005774813A).

3.1 Regarding Claim 83, wireless stations as modified teaches as claimed in Claims 1 & 37 but does not explicitly disclose voltage regulators as claimed. Jokinen discloses a wireless device [Column 1, Lines 13-17 & Column 4, Line 40-45] implemented with at least two voltage regulators that regulate supply voltage according to network device operating modes i.e., low power mode or active mode [Figure 4 & 5] [Background & Summary]. The wireless device as taught by Jokinen comprises:

a first voltage regulator that regulates supply voltage during said active mode and that is powered down during said low power mode [Regulator 2, 3 or 4: Figure 4 & 5];
and

a second voltage regulator that dissipates less power than said first voltage regulator and that regulates supply voltage during said low power mode [Regular 1: Figure 4 & 5], wherein said

the wireless device selects said first voltage regulator during said active mode [Regulator 2, 3 or 4: Figure 4 & 5] and said second voltage regulator during said low power mode [Regulator 2, 3 or 4: Figure 4 & 5] [Column 7, Line 40-Column 8 Line 16] [Column 3, Line 26-40].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to modify wireless device with voltage regulators as taught by Jokinen to operate wireless device as claimed. One of ordinary skill in the art at the time of invention of made would have been motivated to do this to provide improved simple method in reducing the power consumption in low power wireless devices during low power mode.

4. Claims 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US20040253996A1) in view of Mahany et al. (US20060280140A9), further in view of Karaoguz (US20040029620A1) and Gardner et al. (US005950120A).

4.1 Regarding Claims 116, Karaoguz also teaches oscillator operating in lower frequency during low power mode while shutting down base band section (analog and digital converter) and all radio receiver elements [Karaoguz: 0046, 0047]. Therefore, it is obvious to one of ordinary skill in the art the oscillator as modified would operate as reference oscillator for RF radio portions i.e., receiver and base band section although Karaoguz does not explicitly teach as claimed.

Gardner also teaches high frequency reference clock used in active mode and low frequency reference clock used in power saving mode in which radio receiver and base band processing sections are shut down during power saving mode [Abstract & Background] [Operation of sleep logic circuitry: Column 5].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to further modify the device to function the oscillator as claimed. One of ordinary skill in the art at the time of invention of made would have been motivated to do this provide further improvement in power management system of low power saving wireless device.

5. Claims 117 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US20040253996A1) in view of Mahany et al. (US20060280140A9), further in view of Karaoguz (US20040029620A1) and Jokinen (US005774813A).

5.1 Regarding Claims 117, wireless stations as modified teaches as claimed in Claims 1 & 37 but does not explicitly disclose voltage regulators as claimed. Jokinen discloses a wireless device [Column 1, Lines 13-17 & Column 4, Line 40-45] implemented with at least two voltage regulators that regulate supply voltage according to network device operating modes i.e., low power mode or active mode [Figure 4 & 5] [Background & Summary]. The wireless device as taught by Jokinen comprises:

a first voltage regulator that regulates supply voltage during said active mode and that is powered down during said low power mode [Regulator 2, 3 or 4: Figure 4 & 5]; and

a second voltage regulator that dissipates less power than said first voltage regulator and that regulates supply voltage during said low power mode [Regular 1: Figure 4 & 5], wherein said

the wireless device selects said first voltage regulator during said active mode [Regulator 2, 3 or 4: Figure 4 & 5] and said second voltage regulator during said low power mode [Regulator 2, 3 or 4: Figure 4 & 5] [Column 7, Line 40-Column 8 Line 16] [Column 3, Line 26-40].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to modify wireless device with voltage regulators as taught by Jokinen to operate wireless device as claimed. One of ordinary skill in the art at the time of invention of made would have been motivated to do this to provide improved simple method in reducing the power consumption in low power wireless devices during low power mode.

6. Claims 118 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US20040253996A1) in view of Mahany et al. (US20060280140A9), further in view of Karaoguz (US20040029620A1), Gardner et al. (US005950120A) and Jokinen (US005774813A).

6.1 Regarding Claim 118, Karaoguz also teaches oscillator operating in lower frequency during low power mode while shutting down base band section (analog and digital converter) and all radio receiver elements [Karaoguz: 0046, 0047]. Therefore, it is obvious to one of ordinary skill in the art the oscillator as modified would operate as reference oscillator for RF radio portions i.e., receiver and base band section although Karaoguz does not explicitly teach as claimed.

Gardner also teaches high frequency reference clock used in active mode and low frequency reference clock used in power saving mode for supplying clocks to corresponding circuitry in which radio receiver and base band processing sections are shut down during power saving mode [Abstract & Background] [Operation of sleep logic circuitry: Column 5].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to further modify the device to use two oscillators as claimed. One of ordinary skill in the art at the time of invention of made would have been motivated to do selectively maintain device components during power saving modes to reduce power consumption.

The device as modified above does not explicitly teach voltage regulator as claimed although it is obvious to one of ordinary skilled in the art that oscillators are controlled by voltage controlled circuits in order to adjust the frequencies. Jokinen discloses a wireless device [Column 1, Lines 13-17 & Column 4, Line 40-45] implemented with at least two voltage regulators that regulate supply voltage according to network device

Art Unit: 2617

operating modes i.e., low power mode or active mode [Figure 4 & 5] [Background & Summary]. The wireless device as taught by Jokinen comprises:

a first voltage regulator that regulates supply voltage during said active mode and that is powered down during said low power mode [Regulator 2, 3 or 4: Figure 4 & 5]; and

a second voltage regulator that dissipates less power than said first voltage regulator and that regulates supply voltage during said low power mode [Regular 1: Figure 4 & 5], wherein said

the wireless device selects said first voltage regulator during said active mode [Regulator 2, 3 or 4: Figure 4 & 5] and said second voltage regulator during said low power mode [Regulator 2, 3 or 4: Figure 4 & 5] [Column 7, Line 40-Column 8 Line 16] [Column 3, Line 26-40].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to modify wireless device with voltage regulators as taught by Jokinen to operate wireless device as claimed. One of ordinary skill in the art at the time of invention of made would have been motivated to do this to provide improved simple method in reducing the power consumption in low power wireless devices during low power mode.

7. Claims 119, 120 & 121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US20040253996A1) in view of Mahany et al.

(US20060280140A9), further in view of Karaoguz (US20040029620A1), Gardner et al. (US005950120A), Jokinen (US005774813A) and Khlat et al. (US007046977B2).

7.1 Regarding Claims 119, 120 & 121, the device as modified above in Claims 118 does not explicitly teach two wireless circuits.

Khat discloses wireless devices with at least two wireless circuits i.e, GSM, WCDMA and Bluetooth modules [cellular interface module 16 & Bluetooth module 5: Figures] [Column 5, Line 23-Column 9] in which the wireless circuits are selectively operated in powering saving modes by supplying higher or lower frequency clocks.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention of made to modify the wireless device as claimed to selectively operate different wireless circuits in dual or tri modes wireless devices. One of ordinary skill in the art at the time of invention of made would have been motivated to do this provide improved power management in dual modes wireless devices.

Allowable Subject Matter

Claims 102-105, 107 & 108, 109-112, 114 & 115 objected would be allowable if rewritten claims 102 & 109 specifying the first wireless device as Base Band Processor BBP and the second wireless device as RF transceiver as cited in applicant remarks filed on 12/19/2007 including all of the limitations of any intervening claims and if the claims are complied with 112 rejections stated above.

Claims 1-11, 13-21, 100, 37-47, 49, 57, 101 are objected would be allowable if claims are complied with 112 rejections stated above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AUNG T. WIN whose telephone number is (571)272-7549. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aung T. Win
Group Art Unit 2617
April 10, 2008

/Duc Nguyen/
Supervisory Patent Examiner, Art Unit 2617